

## REMARKS

This response is submitted in reply to the final Office Action mailed February 14, 2008 ("the Action"). Claims 1-38 are pending in the application but stand rejected as allegedly being obvious based on primary reference U.S. Patent No. 5,178,159 to Christian ("Christian") combined with one or more secondary references. Applicant respectfully disagrees.

### **I. The Art Rejections**

As noted in the prior response, Christian fails to teach or suggest an MRI guidewire antenna as recited in Claim 1 or the MRI compatible coaxial cable as recited in Claim 25. Indeed, Christian does not mention MRI anywhere. The only imaging modality mentioned by Christian is ultrasound (col. 11, lines 60 et seq. to col. 12, line 23, col. 2, line 52). Clearly, devices used in MRI environments have special technical requirements that are not required with conventional imaging systems.

Nonetheless, the Action appears to take the position that Christian has all of the structural features as claimed and that Christian therefore discloses all the structural limitations of a guidewire required to perform the recited conduction of MRI signals (Action, p. 5). The Action states that the claims directed to an apparatus must be distinguished in terms of structure rather than function (Action, p. 7). However, Applicant respectfully submits that the recited structure does define over the art and clearly provides the recited function. For example, both Claims 1 and 25 recite that the outer conductor is coaxially disposed about the inner conductor.

As Applicant noted in the last response, the guide assembly proposed by Christian is very different from the claimed structure, *e.g.*, a coaxial cable line involving a shield (outer conductor) and inner (center) conductor, just as the "old-style" twin-feed antenna wire used for televisions is different from a coaxial TV antenna lead.

Further, the Action states that, in response to the prior arguments noting that the conductors of Christian reside in a concentric space but are not coaxially arranged, since connectors "are an integral part of a guidewire", the coaxial arrangement of the connectors of

Christian ...reads upon the claimed "outer conductor coaxially disposed about the inner conductor" of the instant invention. Again, Applicant respectfully disagrees. Even Christian describes the connectors as being different than the conductors. However, to advance prosecution, Applicant has amended the independent claims (Claims 1 and 25) to recite that the conductors run at least a major length of the guidewire/cable to obviate this broad reading of a conductor somehow being a connector.

Applicant submits that, in contrast to the conductors 16, 17 or 21, 23 or 98, 99 of Christian, independent Claims 1 and 25 recite very different structures, including, an outer conductor that is coaxially disposed about the inner conductor. Claims 1 and 25 also recite that the guidewire (Claim 1) and coaxial cable (Claim 25) are configured to conduct signals. That is, Christian proposes conducting leads that are side-by-side on the inside of a guidewire assembly and would not be able to detect signals at a distal end and transmit detected signals to a proximal end of the device (e.g, to an MRI scanner).

In further structural contrast, as recited in Claim 1, in some embodiments of the present invention, the guidewire conductor(s) are formed to serve the dual purpose of being both a guidewire and an antenna with the conductors conducting the MRI signals. Claim 1 recites that the distal end of the guidewire defines an antenna configured to detect MRI signals and the inner and outer conductors are configured to conduct the detected MRI signals to the proximal end of the guidewire. Clearly, Christian fails to teach or suggest this feature.

The guidewire antenna (Claim 1) conducts MRI signals detected by the antenna to the MRI scanner for processing to generate images (see the pending specification). It is unclear how Christian would detect and transmit MRI signals (RF signals in a magnetic field), which are very different from ultrasound signals. Christian merely proposes internal conductors, not an internal conductor with a coaxially arranged shield (outer conductor). However, Applicant has amended Claims 1 and 25 to recite that the connector body is non-magnetic (*see*, p.24, lines 16-19) which inhibits interaction with the magnetic field of an MRI system.

Regarding Claims 27 and 34, the Action opines that the claimed limitation to attach to an MRI scanner and allow transmission of MRI signals is "intended use" without resulting in any

structural difference from Christian. Applicant respectfully disagrees. One of skill in the art would know that the connector/MRI interface is different from a conventional connector and does have structural differences required to connect to an MRI scanner. Further, the term "configured to" does impart structural limitations to the claim. See, *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 USPQ 2d 1081, 806 F.2d 1565 (Fed. Cir. 1986). In this case, the Federal Circuit court considered the term "so dimensioned" to be sufficiently clear to one of skill in the art as the claims were intended to cover the use of the invention with various types of automobiles.

That a particular chair on which the claims read may fit within some automobiles and not others is of no moment. The phrase "so dimensioned" is as accurate as the subject matter permits, automobiles being of various sizes. See *Rosemont, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1547, 221 USPQ 1, 7 (Fed.Cir.1984). As long as those of ordinary skill in the art realized that the dimensions could be easily obtained, Sec. 112, 2d p requires nothing more. The patent law does not require that all possible lengths corresponding to the spaces in hundreds of different automobiles be listed in the patent, let alone that they be listed in the claims.

*Orthokinetics, supra.*

Similar to the "so dimensioned" issue above, the "attached to" (Claims 27, 34) and "configured to" recitations of Claims 1 and 25 do recite structural limitations and function that one of skill in the art would understand and are not merely "intended use" recitations, as there is no need to recite all the components known to those of skill in the art in either the patent application nor the claims for the claimed feature to cover more than "intended use."

Applicant respectfully submits that the secondary reference fails to remedy the deficiencies of Christian. Further, one of skill in the art would not have combined the features of an ultrasound device with an MRI device as alleged by the Action (*see, e.g.*, 5-6 of the Action), absent the teachings of the instant invention.

## **II. Claim Objections**

The Action identifies claim informalities in Claims 3, 4, 23, 37 and 24 and 30. Claims 3, 4 and 31 and 36 have been amended to obviate the noted objections. The Action alleges that Claims 23 and 37 did not recite structural limitations, Applicant has amended these claims to provide more specificity regarding the identification parameter. Applicant submits that Claim 32 is a proper claim as it recites a function/feature and is not a method step. However, Claim 32 has been amended to provide additional clarity regarding the recited subject matter. Applicant respectfully submits that the informalities have been suitably resolved.

## **III. New Claims**

Applicant has added new Claims 39-45 to form a more complete set of claims for the pending application and requests entry and consideration of same. Applicant submits that the claims are supported by the figures and/or specification, *e.g.*, Claims 39, 42 (*see* page 24, lines 16-19), Claims 40, 43 (*see* page 24, lines 3-6), and Claims 41, 44, 45 (*see* p.27, lines 19-20).

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#### **IV. Conclusion**

Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,



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#### **CERTIFICATION OF TRANSMISSION**

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on May 13, 2008.

Signature: \_\_\_\_\_



Cara L. Rose